CHARGE NUMBER: 0400
PROJECT TITLE: Tobacco Properties Applications
PROJECT LEADER: R. S. Mullins
PERIOD COVERED: October 1985
DATE OF REPORT: November 8, 1985

I. Maker Optimization Program

Objective:

Optimize cigarette makers to reduce degradation of filler and improve product quality.

Status:

In the initial factory test of the carding comb adjustment, providing a clearance between the combs and the carding drum did not produce a significant increase in cigarette filler size. Possible reasons for this discrepancy with prior R&D test results have been identified and are being investigated. An examination of the Mark 9 hopper has revealed that when the combs are installed and adjusted according to the Molins maintenance manual, the distance between the tips of the combs and the point at which the picker removes shreds from the carding drum may vary from 9 mm to 18 mm. A preliminary test has shown that this distance significantly affects filler degradation, with the amount of 6 mesh filler at the base of the chimney increasing from 5.4% to 7.1% as the distance was increased from 9 mm to 18 mm. Furthermore, when the combs were in the closest position they could not be adjusted far enough off of the surface of the drum to reduce degradation. Additional tests are planned to verify this finding and to determine if the position of the combs significantly affects cigarette weight variation.

Plans:

Continue investigating the effects of comb to picker and comb to carding drum spacing on filler degradation. Continue development and evaluation of the pneumatic picker.

II. Bonded Cigarette Ends

Objective:

Determine the effects on cigarette quality of applying binder to the ends of cigarettes. Develop a process for applying binders to the ends of cigarettes at production rates.

Status:

A shipping test was conducted to determine if the application of binder to the ends of cigarettes reduces the amount of loose tobacco in cigarette packs or the number of shorts under the film of the packs. Cigarettes which had approximately 0.07% degraded pectin binder applied to their ends were tested on a QA shipping simulator along with untreated control cigarettes. The cigarettes to which binder had been applied averaged 0.38 shorts under the film per pack while the control cigarettes averaged 0.92. The test cigarettes also had less loose tobacco in the packs than the control cigarettes, 2.32 mg vs 3.34 mg.

Plans:

Obtain and test an ink jet system for use in this application.

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